hybridizes to a nucleic acid sequence selected from the group consisting of:

wbdH (nucleotide positions 739 to 1932 of SEQ ID NO: 1);

wzx (nucleotide positions 8646 to 9911 of SEQ ID NO: 1);

wzy (nucleotide positions 9901 to 10953 of SEQ ID NO: 1); and

wbdM (nucleotide positions 11821 to 12945 of SEQ ID NO: 1);

(c) contacting said genomic DNA with said at least one oligonucleotide molecule under conditions suitable to permit said oligonucleotide molecule to specifically hybridize to said nucleic acid sequence when present in said genomic DNA; and

(d) detecting any specifically hybridized oligonucleotide molecules, wherein detection of said hybridized oligonucleotide molecules indicates the presence of said *E. coli* in said sample.

Claim 86. The method as claimed in Claim 85, wherein step (b) involves providing one pair of oligonucleotide molecules, and wherein at least one oligonucleotide molecule of said pair specifically hybridizes to one of said nucleic acid sequence.

Claim 87. The method as claimed in Claim 86, wherein said pair of oligonucleotide molecules is a pair of polymerase chain reaction primers.

Claim 88. The method as claimed in Claim 85, wherein said at least one oligonucleotide molecule is selected from the group

consisting of the oligonucleotides listed in tables 5 and 5A herein.

Claim 89. A method of testing a sample for the presence of *E. coli* expressing the bacterial polysaccharide O-antigen serotype 0157, the method comprising the steps of:

(a) providing genomic DNA of a sample to be tested;

(b) providing at least one oligonucleotide molecule, wherein said oligonucleotide molecule is at least 10 nucleotides in length and specifically hybridizes to a nucleic acid sequence selected from the group consisting of:

wbdN (nucleotide positions 79 to 861 of SEQ ID NO: 2);

wbdO (nucleotide positions 2011 to 2757 of SEQ ID NO: 2);

wbdP (nucleotide positions 5365 to 6471 of SEQ ID NO: 2);

wbdR (nucleotide positions 13156 to 13821 of SEQ ID NO: 2);

wzx (nucleotide positions 2744 to 3109 of SEQ ID NO: 2); and

wzy (nucleotide positions 858 to 2042 of SEQ ID NO: 2);

(c) contacting said genomic DNA with said at least one oligonucleotide molecule under conditions suitable to permit said oligonucleotide molecule to specifically hybridize to said nucleic acid sequence when present in said genomic DNA; and

(d) detecting any specifically hybridized oligonucleotide molecules, wherein detection of said hybridized oligonucleotide molecules indicates the presence of said *E. coli* in said sample.

Claim 90. The method as claimed in Claim 89, wherein step (b) involves providing one pair of oligonucleotide molecules, and wherein at least one oligonucleotide molecule of said pair specifically hybridizes to one of said nucleic acid sequence.

Claim 91. The method as claimed in Claim 90, wherein said pair of oligonucleotide molecules is a pair of polymerase chain reaction primers.

Claim 92. The method as claimed in Claim 89, wherein said at least one oligonucleotide molecule is selected from the group consisting of the oligonucleotides listed in tables 6 and 6a herein.

Claim 93. A method of testing a sample for the presence of *S. enterica* expressing the bacterial polysaccharide O-antigen serotype C2, the method comprising the steps of:

(a) providing genomic DNA of a sample to be tested;

(b) providing at least one oligonucleotide molecule, wherein said oligonucleotide molecule is at least 10 nucleotides in length and specifically hybridizes to a nucleic acid sequence selected from the group consisting of:

weaR (nucleotide positions at 2352 to 3314 of SEQ ID NO: 3);

wbaL (nucleotide positions 3361 to 3875 of SEQ ID NO: 3);

wbaQ (nucleotide positions 3977 to 5020 of SEQ ID NO: 3);

wbaW (nucleotide positions 6313 to 7323 of SEQ ID NO: 3);

wbaZ (nucleotide positions 7310 to 8467 of SEQ ID NO: 3);

wzx (nucleotide positions 1019 to 2359 of SEQ ID NO: 3); and

wzy (nucleotide positions 5144 to 6313 of SEQ ID NO: 3);

(c) contacting said genomic DNA with said at least one oligonucleotide molecule under conditions suitable to permit said oligonucleotide molecule to specifically hybridize to said nucleic acid sequence when present in said genomic DNA; and

(d) detecting any specifically hybridized oligonucleotide molecules, wherein detection of said hybridized oligonucleotide molecules indicates the presence of said *S. enteria* in said sample.

Claim 94. The method as claimed in Claim 93, wherein step (b) involves providing one pair of oligonucleotide molecules, and wherein at least one oligonucleotide molecule of the pair specifically hybridizes to one of said nucleic acid sequence.

Claim 95. The method as claimed in Claim 94, wherein said pair of oligonucleotide molecules is a pair of polymerase chain reaction primers.

Claim 96. The method as claimed in Claim 93, wherein said at least one oligonucleotide molecule is selected from the group consisting of the oligonucleotides listed in table 7 herein.

Claim 97. A method of testing a sample for the presence of *S. enterica* expressing the bacterial polysaccharide O-antigen serotype B, the method comprising the steps:

(a) providing genomic DNA of a sample to be tested;

(b) providing at least one oligonucleotide molecule, wherein said oligonucleotide molecule is at least 10 nucleotides in length and specifically hybridizes to a nucleic acid sequence selected from the group consisting of:

wzx (nucleotide position 12762 to 14054 of SEQ ID NO: 4); and

wbaV (nucleotide position 14059 to 15060 of SEQ ID NO: 4);

(c) contacting said genomic DNA with said at least one oligonucleotide molecule under conditions suitable to permit said oligonucleotide molecule to specifically hybridize to said nucleic acid sequence when present in said genomic DNA; and

(d) detecting any specifically hybridized oligonucleotide molecules, wherein detection of said hybridized oligonucleotide molecules indicates the presence of said *S. enteria* in said samples.

Claim 98. The method as claimed in Claim 97, wherein step (b) involves providing one pair of oligonucleotide molecules, and

wherein at least one oligonucleotide molecule of said pair specifically hybridizes to one of said nucleic acid sequence.

Claim 99. The method as claimed in Claim 98, wherein said pair of oligonucleotide molecules is a pair of polymerase chain reaction primers.

Claim 100. The method as claimed in Claim 97, wherein said at least one oligonucleotide molecule is selected from the group consisting of the oligonucleotides listed in table 8 herein.

Claim 101. The method as claimed in any one of Claims 85, 89, 93 and 97, wherein the method further comprises providing at least one further oligonucleotide molecule, said further oligonucleotide molecule specifically hybridizes to a sugar pathway gene specific to the bacterial strain to be detected, and contacting said further oligonucleotide molecule with said genomic DNA to be tested under conditions suitable to permit said further oligonucleotide molecule to specifically hybridize to said sugar pathway gene specific to the bacterial strain to be detected, and detecting any specifically hybridized oligonucleotide molecules.

Claim 102. The method according to any one of Claims 85, 89, 93 and 97, wherein the specifically hybridized oligonucleotide molecules are detected by Southern blot analysis.

Claim 103. The method as claimed in any one of Claims 87, 91, 95 or 99, wherein the method is performed using a polymerase chain reaction.

Claim 104. The method as claimed in any one of Claims 85, 89, 93 or 97, wherein said sample is a food derived sample.

Claim 105. The method as claimed in anyone of Claims 85, 89, 93 or 97, wherein said sample is a faecal derived sample.

Claim 106. The method as claimed in anyone of Claims 85, 89, 93 or 97, wherein said sample is derived from a patient. --

REMARKS

Support for new Claims 85-106 can be found, *inter alia*, in cancelled Claims 1-15 and 32-84. Hence, the addition of new Claims 85-106 do not constitute new matter. Thus, entry is respectfully requested.

In the Office Action dated June 21, 2001, the Examiner has withdrawn consideration Claims 1-15, 32-42 and 65-84, as being directed to a non-elected invention. Applicants hereby cancel said claims without prejudice to the filing of a Divisional Application with respect thereto.

In paragraph 11, on page 3 of the Office Action, the Examiner rejected Claims 43-64 under 35 U.S.C. § 112, first paragraph.

Specifically, the Examiner states that the claims are enabling upon adding limitations that set forth the conditions under which hybridization reactions occur that exclude the formation of hybridization products between the probe and non-target entities.

In view of the cancellation of Claims 43-64 and the addition of new Claims 85-106 herein, wherein, *inter alia*, the minimum probe size, as well as the portions of the sequence to which the probe hybridizes is set forth, Applicants respectfully submit that the claims are enabled by the present specification, and thus request withdrawal of the Examiner's rejection.

The Examiner is invited to contact the undersigned at his Washington telephone number on any questions which might arise.

Respectfully submitted,

Gordon Kit
Registration No. 30,764

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3202
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: June 21, 2002